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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,759	09/10/2001	Susan Joy Cooper	JMYT-239US	5843

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EXAMINER

DOVE, TRACY MAE

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/857,759	COOPER ET AL.	
Examiner	Art Unit	eb
Tracy Dove	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12-15, 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-15, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

This Office Action is in response to the communication filed on 3/15/04. Applicant's arguments have been considered, but are not persuasive. Claims 1-10, 12-15, 17 and 18 are pending and remain rejected in view of the prior art of record. Claims 11 and 16 have been canceled. This Action is made FINAL.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 12-15, 17 and 18 are rejected under 35 U.S.C. 102(b)/35 U.S.C. 103(a) as being anticipated by, and alternatively unpatentable over, Wilkinson et al., US 5,795,669, as evidenced by Katz et al., US 4,552,857.

Wilkinson teaches an electrode comprising a first catalytic component active at gas-phase reaction sites and a second catalytic component active at electrochemical reaction sites wherein each catalytic component is present either as a separate layer, a single mixed layer or a combination of a separate layer and a single mixed layer. The electrode has improved tolerance

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to poisons such as carbon monoxide (abstract). The first and second catalytic components are arranged such that the reactant gas stream first contacts the first catalytic component and thereafter contacts the second catalytic component. The catalytic components may be the same or different catalyst materials and are independently selected from the group consisting of platinum group metals, gold, silver, base metals, base metal oxides and alloys or mixtures of one or more of these metals. The platinum group metals are platinum, palladium, rhodium, iridium, ruthenium and osmium. In one embodiment the first catalytic component is platinum and the second catalytic component is a mixture of platinum/ruthenium (col. 5, lines 22-35). Wilkinson teaches that the first catalytic component may be platinum alloyed or mixed with a base metal or a base metal oxide. The first and second components may be in ionic contact (col. 5, lines 45-64). The catalyst layers were applied to a carbon fiber paper substrate (gas diffusion material) (Example 1). The catalyst layers are located between the substrate and a solid polymer electrolyte (col. 6, lines 32-40). Wilkinson teaches a MEA comprising the electrode and a PEMFC comprising the MEA (col. 6, lines 15-19). Both tungsten (W) and molybdenum (Mo) are base metals. This is evidenced by Katz which teaches a base metal catalyst such as Co, Ni, Mo, molybdate or tungstate (col. 3, lines 14-19).

Thus the claims are anticipated.

The claims are alternatively unpatentable because it is unclear if the reference teaches the claimed invention with "sufficient specificity". Wilkinson does not have a specific teaching where the first catalytic component is Pt-Y, wherein Y is Mo, W or an oxide of Mo or W. However, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because Wilkinson teaches the catalytic components may

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be the same or different catalyst materials and are independently selected from the group consisting of platinum group metals, gold, silver, base metals, base metal oxides and *alloys or mixtures of one or more of these metals*. Base metals include Co, Ni, Mo, molybdate or tungstate (col. 3, lines 14-19 of Katz). Thus, Wilkinson at least suggests the first catalytic component may have the formula Pt-Y wherein Y is Mo, W or an oxide of Mo or W (base metals or base metal oxides). One of skill in the art would have found it obvious to substitute Pt-Y wherein Y is Mo, W or an oxide of Mo or W (base metals or base metal oxides) for the first catalytic component of Pt alone because Wilkinson teaches and suggests that platinum may be alloyed or mixed with a base metal or a base metal oxide.

Regarding claims 2, 12 and 18, Wilkinson teaches that the first catalytic component may comprise platinum group metals, gold, silver, base metals, base metal oxides and *alloys or mixtures of one or more of these metals*. Thus, Wilkinson at least suggests the first catalytic component may have the formula Pt-Y-X wherein Y is Mo, W or an oxide of Mo or W (base metals or base metal oxides) and X is Ru, Rh, Ni or Co. Ru and Rh are platinum group metals and Ni and Co are base metals. One of skill in the art would have found it obvious to substitute Pt-Y-X wherein Y is Mo, W or an oxide of Mo or W (base metals or base metal oxides) and X is Ru, Rh, Ni or Co for the first catalytic component of Pt alone because Wilkinson teaches and suggests that platinum may be alloyed or mixed with at least one of a base metal, a base metal oxide and/or another platinum group metal.

Note the question of "sufficient specificity" is similar to that of "clearly envisaging" a species from a generic teaching. A 35 U.S.C. 102 /103 combination rejection is permitted if it is unclear if the reference teaches the range with "sufficient specificity." See MPEP 2131.03.

Response to Arguments

Applicant's arguments filed 3/15/04 have been fully considered but they are not persuasive.

Applicant argues Wilkinson does not teach a first catalytic component comprising an electrocatalyst. Applicant states Wilkinson discloses an electrode that comprises a first and a second catalytic component, where the second catalytic component comprises an electrocatalyst, but the first catalytic component does not comprise an electrocatalyst. Examiner disagrees with Applicant's analysis of the Wilkinson reference. Specifically, Wilkinson discloses that the catalytic components may be the same or different catalyst materials (5:27-35). Thus, if Wilkinson discloses a second catalytic component comprising an electrocatalyst (admitted by Applicant) then Wilkinson also discloses a first catalytic component comprising an electrocatalyst because Wilkinson teaches the catalytic components may be the same (5:56-57). Furthermore, Wilkinson teaches the first catalytic component may be platinum (electrocatalyst; 5:33-34) or platinum alloyed or mixed with a base metal or a base metal oxide (5:27-35). The first catalytic component active at gas-phase reaction sites of Wilkinson is an electrocatalyst component. Thus, Applicant's argument is not convincing.

Applicant argues Wilkinson does not disclose or suggest a first electrocatalyst comprising one or more electrocatalyst(s) of formula Pt-Y catalysts wherein Y is Mo, W or an oxide of Mo or W. Applicant points to a definition of base metals in an online Oxford Dictionary (not provided). However, the Examiner has provided Katz et al. (US4,552,857) as an evidence reference that teaches in the fuel cell electrocatalyst art inexpensive base metal catalysts include Co, Ni, Mo, oxides or sulfides of nickel or cobalt, molybdates or tungstates (3:14-19).

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Therefore, the disclosure of "base metals" by Wilkinson is not of a "very broad range" as asserted by Applicant. Thus, Applicant's argument is not persuasive.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is 571-272-1285. The examiner can normally be reached on Monday-Thursday (9:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tracy Dove
Patent Examiner
Technology Center 1700
Art Unit 1745

June 1, 2004